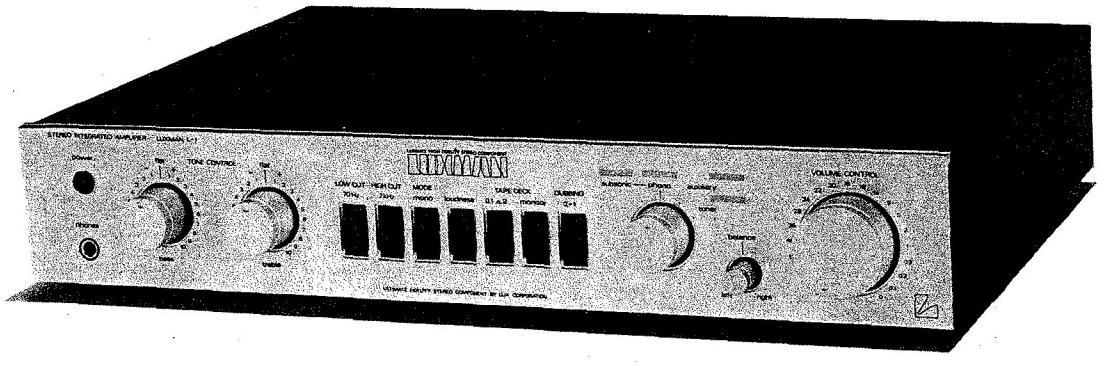
# SERVICE MANUAL

## SOLID STATE STEREO INTEGRATED AMPLIFIER

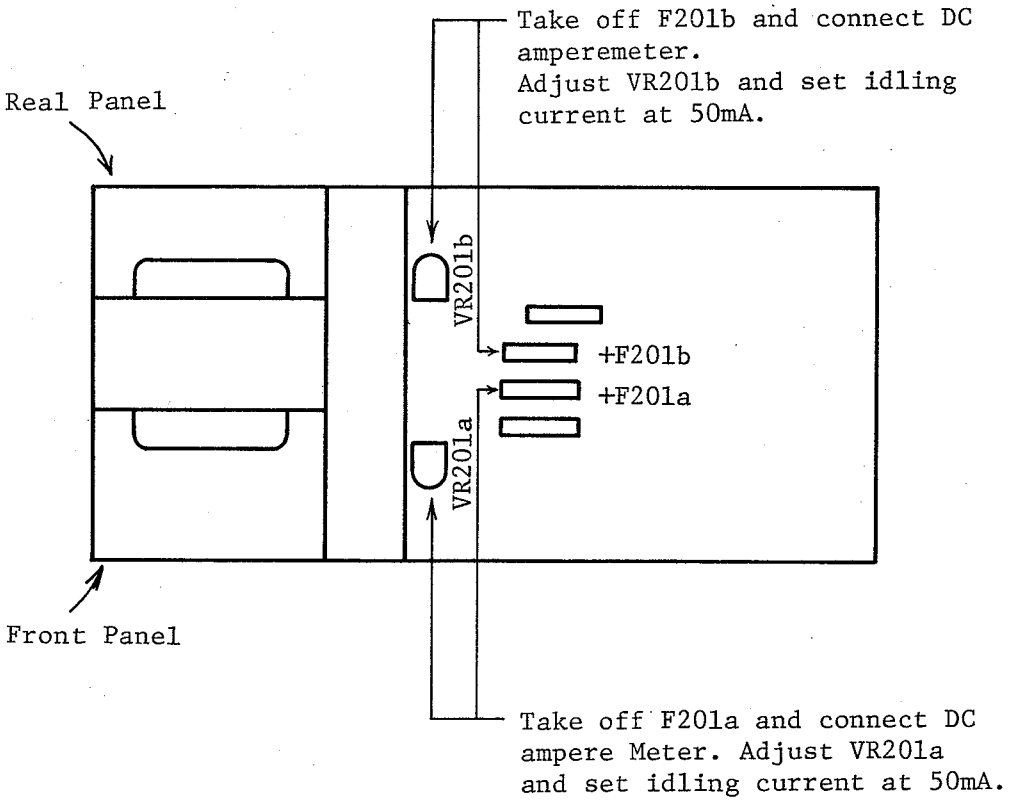
## L-1 (L-1A)

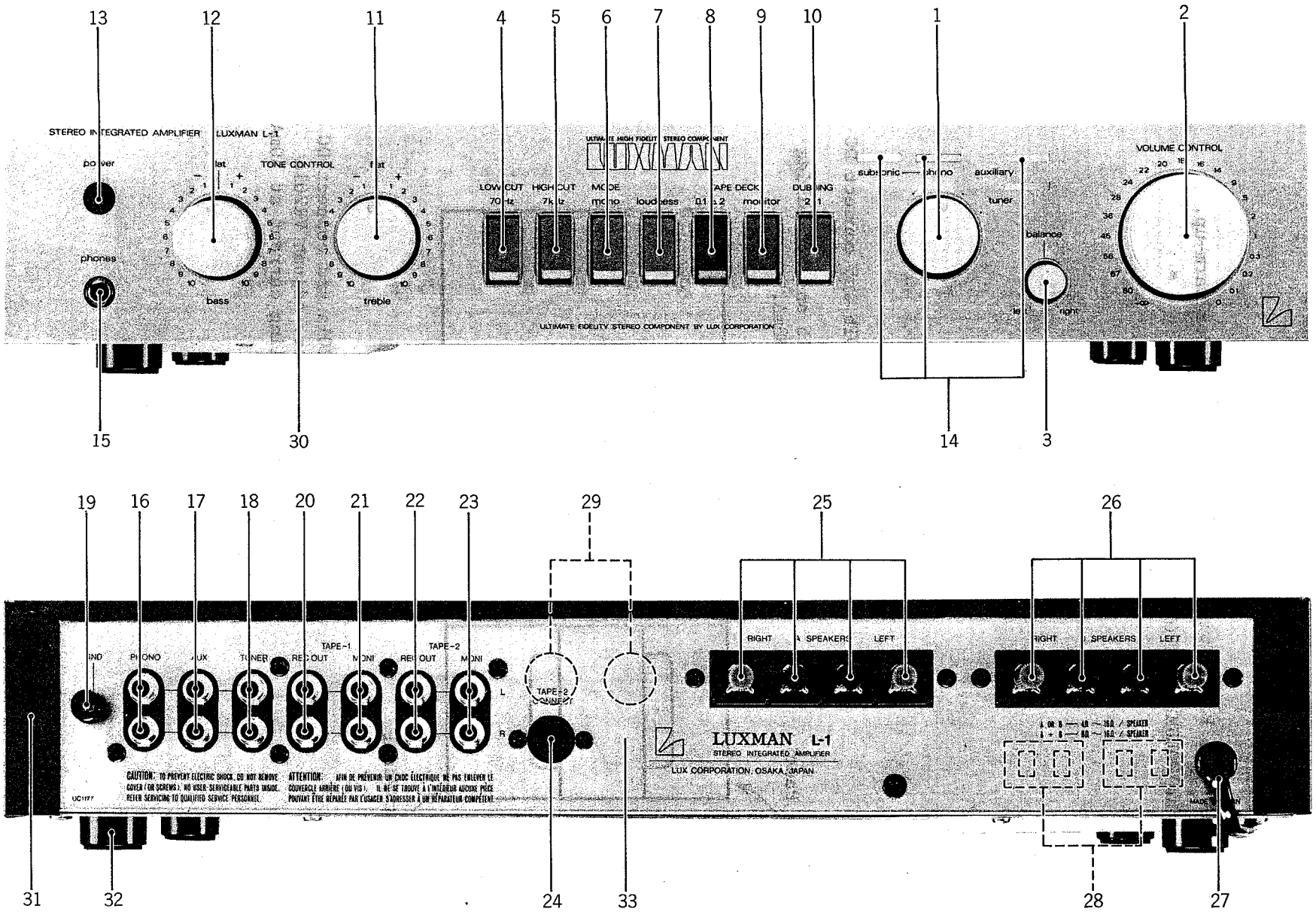


L-1, L-1A Alignment Point

Bias Adjustment

1. Turn on the Power Switch and wait 3 minutes for warm-up.
2. Set the VOLUME CONTROL to Minimum.


Take off F201b and connect DC amperemeter.
Adjust VR201b and set idling current at 50mA.
Real Panel
VR201b
+F201b
+F201a
VR201a
Front Panel
Take off F201a and connect DC ampere Meter. Adjust VR201a and set idling current at 50mA.


STEREO INTEGRATED AMPLIFIER LUXMAN L-1
power
phones
TONE CONTROL
flat
bass
treble
LOW CUT 70Hz
HIGH CUT 7kHz
MODE
mono
loudness
TAPE DECK
0.1
0.2
monitor
DUBBING
2
1
subsonic
phono
auxiliary
tuner
balance
left
right
VOLUME CONTROL
ULTIMATE FIDELITY STEREO COMPONENT BY LUX CORPORATION
13
12
11
4
5
6
7
8
9
10
1
2
15
30
14
3
19
16
17
18
20
21
22
23
29
25
26
PHONO
AUX
TUNER
TAPE-1
TAPE-2
REC OUT
MONI
L
R
RIGHT
SPEAKERS
LEFT
LUXMAN L-1
STEREO INTEGRATED AMPLIFIER
LUX CORPORATION, OSAKA, JAPAN
CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE COVER (OR SCREWS). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
ATTENTION: AFIN DE PRÉVENIR UN CHOC ÉLECTRIQUE NE PAS ENLEVER LE COUVERCLE ARRIÈRE (OU VIS). IL NE SE TROUVE À L'INTÉRIEUR AUCUNE PIÈCE POUVANT ÊTRE RÉPARÉE PAR L'USAGER. S'ADRESSER À UN RÉPARATEUR COMPÉTENT.
31
32
24
33
28
27

| Ref. No. | DESCRIPTION | L-1(U) | L-1(S) | L-1(E) | L-1(J) | L-1(A) |
|---|---|---|---|---|---|---|
| 1 | Input Selector Knob | WH1106 | WH1106 | WH1106 | WH1101 | WH1106 |
| 2 | Volume Control Knob | WH1105 | WH1105 | WH1105 | WH1100 | WH1105 |
| 3 | Balance, Knob | WH1115 | WH1115 | WH1115 | WH1116 | WJ1143 |
| 4 | Push Button | WA1142-1 | WA1142-1 | WA1142-1 | WA1142-1 | WJ1142-1 |
| 5 | " | " | " | " | " | " |
| 6 | " | " | " | " | " | " |
| 7 | " | " | " | " | " | " |
| 8 | " | WJ1142-2 | WJ1142-2 | WJ1142-2 | WJ1142-2 | " |
| 9 | " | WJ1142-3 | WJ1142-3 | WJ1142-3 | WJ1142-3 | " |
| 10 | " | WJ1142-1 | WJ1142-1 | WJ1142-1 | WJ1142-1 | " |
| 11 | Treble Knob | WH1106 | WH1106 | WH1106 | WH1101 | WH1106 |
| 12 | Bass Knob | " | " | " | WH1101 | WH1106 |
| 13 | Power Switch Knob | WJ1133 | WJ1133 | WJ1133 | WJ1133 | WJ1133 |
| 14 | Function Indicators | WE1092 | WE1092 | WE1092 | WE1092 | ------ |
| 15 | Headphone Jack | AJ0016 | AJ0016 | AJ0016 | AJ0016 | AJ0016 |
| 16 | Input Terminal | AT5019 | AT5019 | AT5019 | AT5019 | AT5019 |
| 17 | " | " | " | " | " | " |
| 18 | " | " | " | " | " | " |
| 19 | GND Terminal | AG0100 | AG0100 | AG0100 | AG0100 | AG0100 |
| 20 | Input Terminal | AT5018 | AT5018 | AT5018 | AT5018 | AT5018 |
| 21 | " | " | " | " | " | " |
| 22 | " | " | " | " | " | " |
| 23 | " | " | " | " | " | " |
| 24 | DIN Connector | ------ | AS0185 | AS0185 | ------ | AS0185 |
| 25 | Speaker Terminal | AT0124 | AT0124 | AT0124 | AT0124 | AT0124 |
| 26 | " | " | " | " | " | " |
| 27 | AC Cord | BK0018 | BK0022 | BK0022 | BK0015 | BK0022 |
| 28 | AC Outlet | AC0050 | ------ | AC0051 | AC0055 | ------ |
| 29 | Fuse Holder | AH0001 | ------ | ------ | ------ | ------ |
| 30 | Front Panel | WA1206 | WA1206 | WA1206 | WA1206 | WA1210 |
| 31 | Bonnet | UG1027 | UG1027 | UG1027 | UG1027 | UG1027 |
| 32 | Leg | WN0007 | WN0007 | WN0007 | WN0007 | WN0007 |
| 33 | Rear Panel | UC1183 | UC1178 | UC1179 | UC1177 | UC1180 |

| REF. NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| S101 | SR0143 | Input Selector Switch |
| S108 | SP0165 | Low Cut Switch |
| S107 | SP0165 | High Cut Switch |
| S106 | SP0165 | Mode Switch |
| S105 | SP0165 | Loudness Switch |
| S104 | SP0165 | Moni 1-2, Select Sw |
| S103 | SP0165 | Tape Monitor Sw |
| S102 | SP0165 | Dubbing Switch |
| S001ab | SP0167 | Power Switch (E)(S) |
| S001ab | SP0166 | Power Switch (J)(U) |
| VR101ab | RV0258 | Volume Control |
| VR001ab | RV0260 | Balance Control |
| | RV0259 | Treble |
| | RV0259 | Bass |
| | PT2484 | Power Transformer (U) |
| | PT2482 | " " (S) |
| | PT2483 | " " (E) |
| | PT2499 | " " (J) |
| | PT2491 | " " L-1A |
| Q210 | TR0290 | Power TR 2SA1135 (E,S,J) |
| 209 | TR0291 | " 2SC2665 (E,S,J) |
| Q210 | TR0329 | " 2SA1102 (U) |
| 209 | TR0330 | " 2SC2577 (U) |
| P.L. | AL0056 | Orange L-1 |
| | AL0057 | Green L-1 |
| | AL0058 | 12V 75mA L-1A |

| REF. NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| F301 | BF0074 | ULCS-MF61M-0.5A (UC,UZ) |
| F301 | BF0201 | 5x20 0.1A(T) (S,E) |
| F301 | BF0117 | MF60NR-3A (J) |
| F301 | BF0308 | MF51NR-0.5A (T-1L) |
| F201ab | ------ | ------ (UC,UZ) |
| F201ab | BF0079 | ULCS-MF61M-3A (E) |
| F201ab | BF0117 | MF60NR-3A (J) |
| F201ab | BF0303 | MF51NR-3A (L-1A) |
| F202ab | ------ | ------ (UC,UZ) |
| | BF0198 | 5x20 1.4A(T) (S) |
| | BF0079 | ULCS-MF61M-3A (E) |
| | BF0117 | MF60NR-3A (J) |
| | BF0303 | MF51NR-3A (L-1A) |

PB1324A

| SYMBOL NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| C101ab | CE0788 | 3.3uF 50WV E |
| 102ab | CC0005 | 33pF 50WV C |
| 103ab | CC0007 | 100pF 50WV C |
| 104ab | CE0810 | 47uF 10WV E |
| 105ab | CQ1427 | 2200pF 50WV S |
| 106ab | CQ1439 | 6200pF 50WV S |
| 107ab | CC0038 | 5pF 50WV C |
| 108ab | CE0820 | 47uF 16WV E |
| 109ab | CQ1325 | 0.1uF 50WV MY |
| 110ab | CE0786 | 1uF 50WV E |
| 111 | CE0821 | 100uF 16WV E |
| 112 | CE0858 | 100uF 50WV E |
| 113ab | CQ1320 | 0.039uF 50WV MY |
| 114ab | CQ1308 | 0.039uF 50WV MY |
| 115ab | CQ1319 | 0.033uF 50WV MY |
| 117 | CK0159 | 0.1uF 25WV C |
| 118 | CK0158 | 0.047uF 25WV C |
| 119 | CK0158 | 0.047uF 25WV C |
| 201ab | CE0788 | 3.3uF 50WV E |
| 202ab | CC0008 | 150pF 50WV C |
| 203ab | CE0832 | 100uF 25WV E |
| 204ab | CC0006 | 47pF 50WV C |

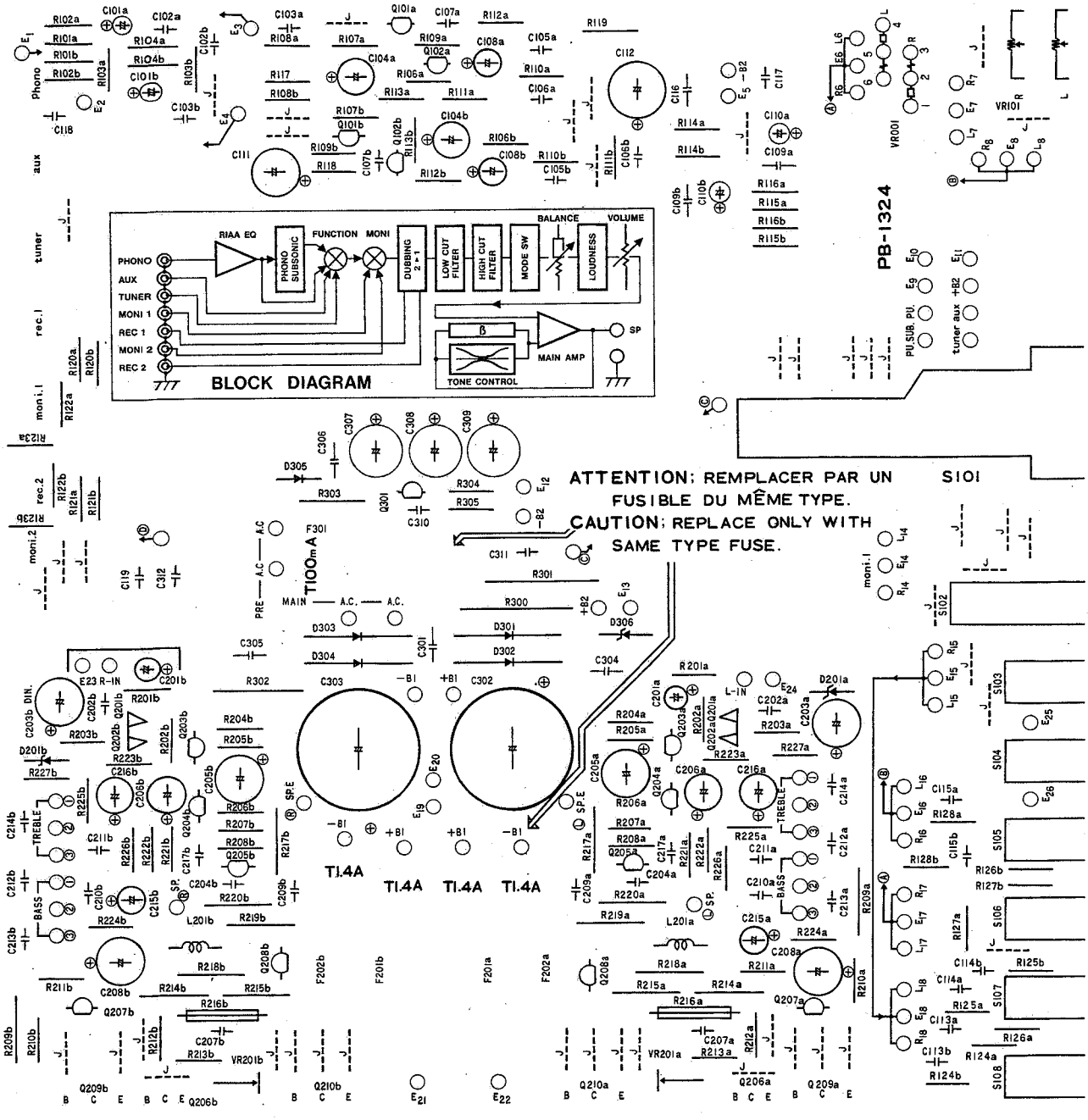
| SYMBOL NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| C205ab | CE0844 | 220uF 35WV E |
| 206ab | CE0820 | 47uF 16WV E |
| 207ab | CK0140 | 0.047uF 50WV C |
| 208ab | CE0842 | 47uF 35WV E |
| 209ab | CQ1321 | 0.047uF 50WV MY |
| 210ab | CQ1311 | 0.0068uF 50WV MY |
| 211ab | CQ1319 | 0.033uF 50WV MY |
| 212ab | CQ1323 | 0.068uF 50WV MY |
| 213ab | CQ1308 | 0.0039uF 50WV MY |
| 214ab | CQ1317 | 0.022uF 50WV MY |
| 215ab | CE0827 | 4.7uF 25WV E |
| 216ab | CE0818 | 22uF 16WV E |
| 217ab | CQ1301 | 0.001uF 50WV MY |
| 301 | CK0203 | 0.01uF 500WV C |
| 302 | CE1017 | 3300uF 35WV E L-1A |
| | CE1015 | 4700uF 35WV E L-1 |
| 303 | CE1017 | 3300uF 35WV E L-1A |
| | CE1015 | 4700uF 35WV E L-1 |
| 306 | CK0203 | 0.01uF 500WV C |
| 307 | CE0858 | 100uF 50WV E |
| 308 | CE0858 | 100uF 50WV E |
| 309 | CE0858 | 100uF 50WV E |
| 310 | CC0007 | 100pF 50WV C |
| 311 | CK0158 | 0.047uF 25WV C |
| 312 | CK0158 | 0.047uF 25WV C |

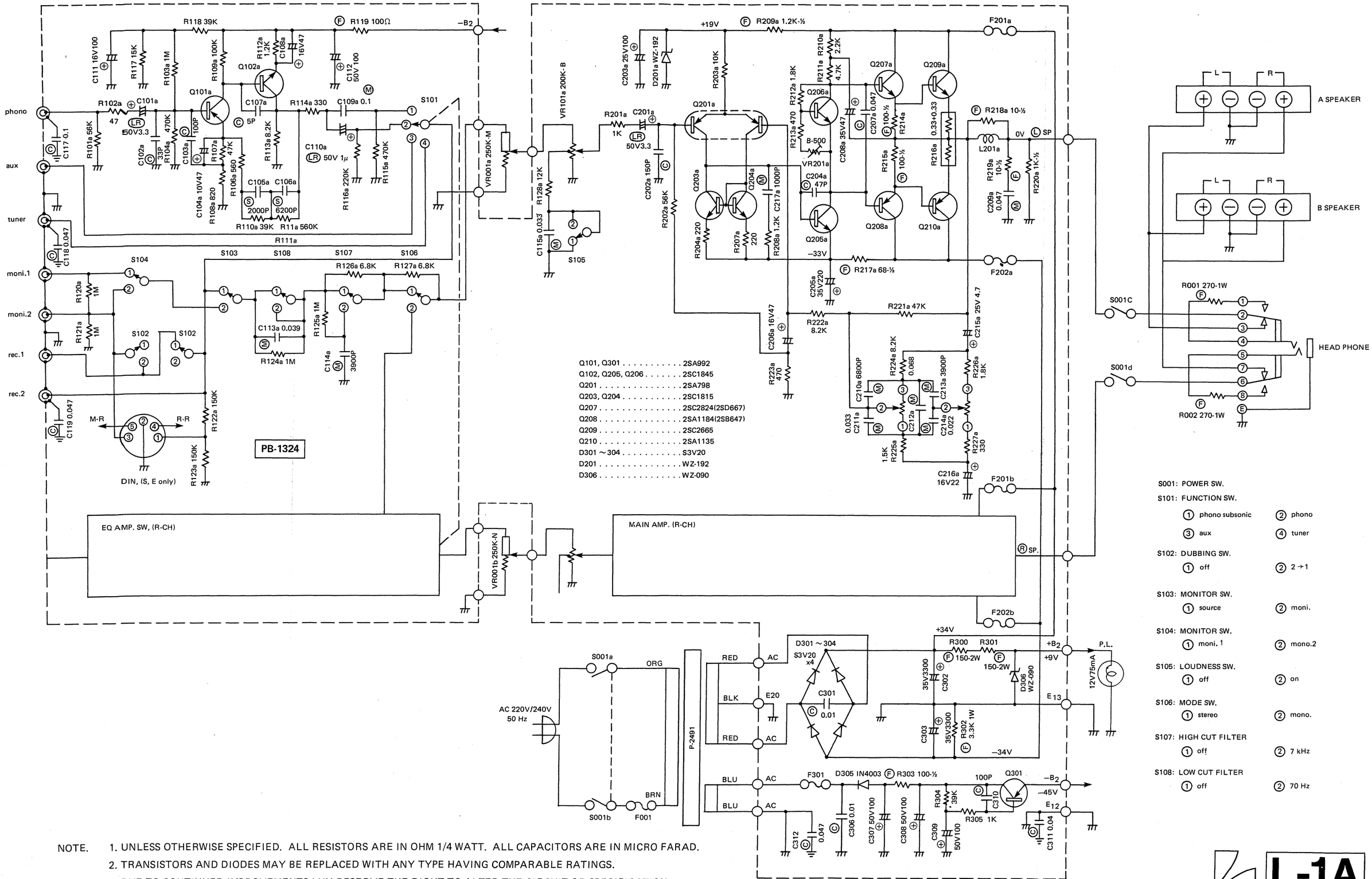
| SYMBOL NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| R101ab | RB0414 | 56k 0.25W ±5% RD25S |
| 102ab | RB0340 | 47 " " " |
| 103ab | RB0444 | 1M " " " |
| 104ab | RB0436 | 470k " " " |
| 106ab | RB0366 | 560 " " " |
| 107ab | RB0412 | 47k " " " |
| 108ab | RB0370 | 820 " " " |
| 109ab | RB0420 | 100k " " " |
| 110ab | RB0410 | 39k " " " |
| 111ab | RB0438 | 560k " " " |
| 112ab | RB0374 | 1.2k " " " |
| 113ab | RB0394 | 8.2k " " " |
| 114ab | RB0360 | 330 " " " |
| 115ab | RB0436 | 470k " " " |
| 116ab | RB0428 | 220k " " " |
| 117ab | RB0400 | 15k " " " |
| 118 | RB0410 | 39k " " " |
| 119 | RS1281 | 100 0.33W " flame prf. |
| 120ab | RB0444 | 1M 0.25W ±5% RD25S |
| 121ab | RB0444 | 1M " " " |
| 124ab | RB0444 | 1M " " " |
| 125ab | RB0444 | 1M " " " |
| 126ab | RB0392 | 6.8k " " " |
| 127ab | RB0392 | 6.8k " " " |
| 128ab | RB0398 | 12k " " " |
| 201ab | RB0372 | 1k " " " |
| 202ab | RB0414 | 56k " " " |
| 203ab | RB0396 | 10k " " " |
| 204ab | RB0356 | 220 " " " |
| 207ab | RB0356 | 220 " " " |
| 208ab | RB0374 | 1.2k " " " |
| 209ab | RS2525L | 1.2k 0.5W 10% flame prf. |
| 210ab | RB0380 | 2.2k 0.25W 5% RD25S |
| 211ab | RB0388 | 4.7k 0.25W 5% " |
| 212ab | RB0378 | 1.8k 0.25W " " |

| SYMBOL NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| R213ab | RB0364 | 470 0.25W 5% RD25S |
| 214ab | RS2512L | 100 0.5W 10% flame prf. |
| 215ab | RS2512L | 100 " " " |
| 216ab | RG0090 | 0.33 2W " cement |
| 217ab | RS2510L | 68 0.5W 5% flame prf. |
| 218ab | RS2501L | 10 0.5W " " |
| 219ab | RS2501L | 10 0.5W " " |
| 220ab | RS2524L | 1k 0.5% " " |
| 221ab | RB0412 | 47k 0.25W " RD25S |
| 222ab | RB0394 | 8.2k " " " |
| 223ab | RB0364 | 470 " " " |
| 224ab | RB0394 | 8.2k " " " |
| 225ab | RB0376 | 1.5k " " " |
| 226ab | RB0378 | 1.8k " " " |
| 227ab | RB0360 | 330 " " " |
| R300 | RS2952 | 150 2.0W " flame prf. |
| 301 | RS2952 | 150 2.0W " " |
| 302 | RS2716 | 3.3k 1.0W " " |
| 303 | RS2512 | 100 0.5W 10% " |
| 304 | RB0410 | 39k 0.25W 5% " |
| 305 | RB0372 | 1k 0.25W 5% " |

| SYMBOL NO. | STOCK NO. | DESCRIPTION |
|---|---|---|
| D201ab | TD0065 | zener WZ-192 |
| D301 | TD0105 | S3V20 |
| 302 | TD0105 | S3V20 |
| 303 | TD0105 | S3V20 |
| 304 | TD0105 | S3V20 |
| 305 | TD0003 | 1N4003 |
| 306 | TD0025 | WZ090 zener |
| L201ab | LA1004 | Choke Coil |

| SYMBOL NO. | STOCK NO. | DESCRIPTION | SYMBOL NO. | STOCK NO. | DESCRIPTION |
|---|---|---|---|---|---|
| Q101ab | TR0320 | TR 2SA992 | Q205ab | TR0323 | TR 2SC1845 |
| 102ab | TR0323 | TR 2SC1845 | 207ab | TR0194 | TR 2SD667 |
| 201ab | TR0254 | TR 2SA798 | 208ab | TR0195 | TR 2SB647 |
| 203ab | TR0198 | TR 2SC1815 | Q301 | TR0320 | TR 2SA992 |
| 204ab | TR0198 | TR 2SC1815 | | | |


PB-1324
BLOCK DIAGRAM
RIAA EQ
FUNCTION
MONI
BALANCE
VOLUME
PHONO
AUX
TUNER
MONI 1
REC 1
MONI 2
REC 2
PHONO SUBSONIC
DUBBING 2→1
LOW CUT FILTER
HIGH CUT FILTER
MODE SW
LOUDNESS
MAIN AMP
TONE CONTROL
SP
ATTENTION: REMPLACER PAR UN FUSIBLE DU MÊME TYPE.
CAUTION: REPLACE ONLY WITH SAME TYPE FUSE.
S101
F301
T100mA
T1.4A
T1.4A
T1.4A
T1.4A
PHONO
aux
tuner
rec.1
moni.1
rec.2
moni.2
TREBLE
BASS
R-IN
L-IN
DIN.
PU.SUB.PU
tuner aux +B2




S001: POWER SW.

S101: FUNCTION SW.
- (1) phono subsonic
- (2) phono
- (3) aux
- (4) tuner

S102: DUBBING SW.
- (1) off
- (2) 2 → 1

S103: MONITOR SW.
- (1) source
- (2) moni.

S104: MONITOR SW.
- (1) moni. 1
- (2) mono.2

S105: LOUDNESS SW.
- (1) off
- (2) on

S106: MODE SW.
- (1) stereo
- (2) mono.

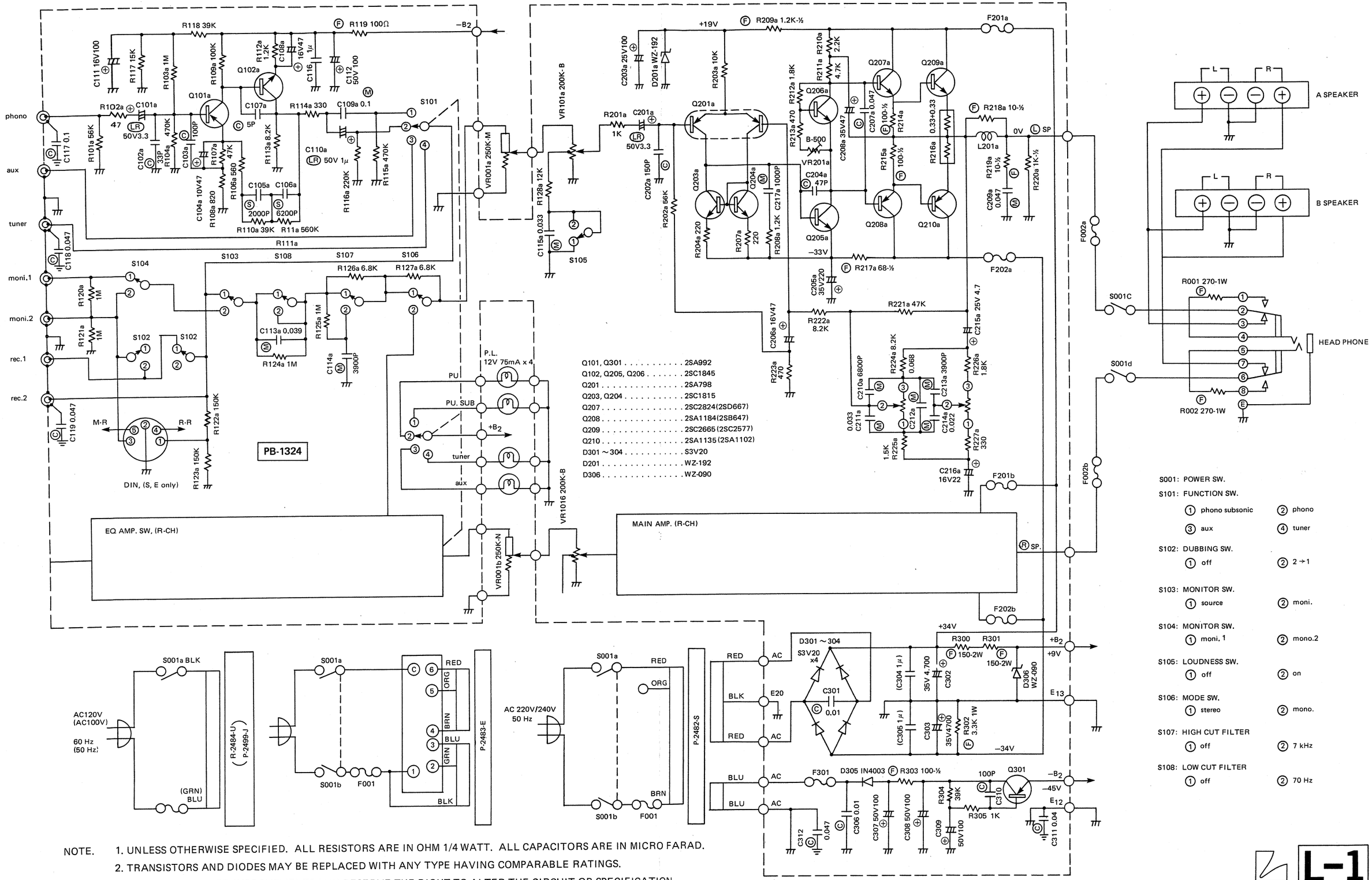
S107: HIGH CUT FILTER
- (1) off
- (2) 7 kHz

S108: LOW CUT FILTER
- (1) off
- (2) 70 Hz

NOTE. 1. UNLESS OTHERWISE SPECIFIED. ALL RESISTORS ARE IN OHM 1/4 WATT. ALL CAPACITORS ARE IN MICRO FARAD.
2. TRANSISTORS AND DIODES MAY BE REPLACED WITH ANY TYPE HAVING COMPARABLE RATINGS.
3. DUE TO CONTINUED IMPROVEMENTS LUX RESERVE THE RIGHT TO ALTER THE CIRCUIT OR SPECIFICATION.

**L-1A**

Printed in Japan


PB-1324
EQ AMP. SW, (R-CH)
MAIN AMP. (R-CH)
DIN, (S, E only)
A SPEAKER
B SPEAKER
HEAD PHONE
phono
aux
tuner
moni.1
moni.2
rec.1
rec.2
Q101, Q301 . . . . . 2SA992
Q102, Q205, Q206 . . . . . 2SC1845
Q201 . . . . . 2SA798
Q203, Q204 . . . . . 2SC1815
Q207 . . . . . 2SC2824(2SD667)
Q208 . . . . . 2SA1184(2SB647)
Q209 . . . . . 2SC2665(2SC2577)
Q210 . . . . . 2SA1135(2SA1102)
D301 ~ 304 . . . . . S3V20
D201 . . . . . WZ-192
D306 . . . . . WZ-090
S001: POWER SW.
S101: FUNCTION SW.
① phono subsonic ② phono
③ aux ④ tuner
S102: DUBBING SW.
① off ② 2 → 1
S103: MONITOR SW.
① source ② moni.
S104: MONITOR SW.
① moni. 1 ② mono.2
S105: LOUDNESS SW.
① off ② on
S106: MODE SW.
① stereo ② mono.
S107: HIGH CUT FILTER
① off ② 7 kHz
S108: LOW CUT FILTER
① off ② 70 Hz
AC120V (AC100V) 60 Hz (50 Hz)
AC 220V/240V 50 Hz
P-2484-U P-2499-J
P-2483-E
P-2482-S

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2. TRANSISTORS AND DIODES MAY BE REPLACED WITH ANY TYPE HAVING COMPARABLE RATINGS.
3. DUE TO CONTINUED IMPROVEMENTS LUX RESERVE THE RIGHT TO ALTER THE CIRCUIT OR SPECIFICATION.

L-1

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| SPECIFICATIONS | |
|---|---|
| Power Output: | 35W/35W(1kHz,, with in 0.02% T.H.D.) |
| | 30W/30W(FTC rule, with no more than 0.02 |
| | % total harmonic distortion) |
| Rated I.M.: | no more than 0.02% |
| | (35W/ch,8ohms,60Hz:7kHz=4:1,tonecont. |
| | :flat) |
| Input Sensitivity: | 2.2mV(phono) |
| | 135mV(aux) |
| Input Impedance: | 50k ohms(phono) |
| | 50k ohms(aux) |
| Frequency Response: | phono; 20Hz-20kHz(±0.5dB) |
| | aux; 10Hz-100kHz(±1.5dB) |
| Signal-to-Noise Ratio: | better than 80dB(phono) |
| (IHF A weighted) | better than 100dB(aux) |
| Residual Noise: | 0.5mV |

| | |
|---|---|
| Filters: | subsonic 30Hz(6dB/oct.) |
| | low cut 70Hz(6dB/oct.) |
| | high cut 7kHz(6dB/oct.) |
| Loudness: | +10dB at 100Hz(VR:-30dB) |
| Loudness: | +10dB at 100Hz(VR:-30dB) |
| Tone Control: | Bass; +8dB at 70Hz |
| | -10dB at 70Hz |
| | Treble; +8dB at 14kHz |
| | -10dB at 14kHz |
| Crosstalk at 1kHz: | -70dB(aux, monitor) |
| Phono Overload Voltage: | 150mV |
| Power Consumption: | 150W(8 ohms, at full power) |
| Dimensions: | 438(W)×306(D)×84(H)mm |
| | (17-1/4"×12-1/16"×3-11/32") |
| Weight: | Net 7.5kgs(16.5lbs.) |
| | Gross 8.5kgs(18.7lbs.) |

Specifications and appearance design subject to change without notice.

CARACTERISTIQUES L-1A

| | |
|---|---|
| Puissance de Sortie | 30 watts minimum continus par canal sous charge, 8 ohms, les 2 canaux fonctionnant simultanement pour une DHT inferieure à 0.04% |
| Bande Passante | 10Hz à 100,000Hz (±1.5dB) |
| Facteur d'amortissement | 65 (8 ohms) |
| Bruit Résiduel | moins de 0.5mV |
| Rapport Signal/Bruit | inférieur à 93dB(phono,10mV) |